

SAND POINT CONCEPT MASTER PLAN KEWEENAW BAY INDIAN COMMUNITY

The Keweenaw Bay Indian Community (KBIC) received a Brownfield assessment grant from the U.S. Environmental Protection Agency (EPA) to study the environmental conditions at Sand Point. The Sand Point property includes an extensive beach area along Keweenaw Bay that has great potential as a recreational area. However, the resources of this property suffer from the deposition of vast quantities of stamp sand along the shore. A copper stamping mill operated north of the site from 1902 to 1919, and an estimated six billion pounds of stamp sand generated from this mill was deposited in Keweenaw Bay. Over the years, currents in Keweenaw Bay have carried the stamp sand south to Sand Point. The objective of the brownfield grant is to determine what impact the stamp sand has had on the fish population, groundwater, sediment and surface water at Sand Point, and what remedial efforts are required to address those impacts. The Natural Resources Conservation Service also retained a sub-contract under this EPA grant to delineate the extent of stamp sands, analyze the chemical content of the soils and plants as well as conduct field trials. The remedial recommendations will be developed with consideration given to the intended future use of Sand Point. To that end, this Master Plan will serve as a general guide for future development of the area.

STUDY AREA

This plan covers the area from the northern part of Sand Point where the property pinches out between US-41 and Keweenaw Bay, to the south at the location of the existing marina.

SITE DESCRIPTION

The land area includes extensive Keweenaw Bay shoreline (Lake Superior). A mix of pine and hardwood forest, open grasses and wetland comprise the vegetation. There are several sloughs connected to Lake Superior, as well as several ponds. A network of gravel roads provides access to the south end of the property.

EXISTING LAND USE AND FACILITIES

The KBIC currently uses the site for several purposes, as described below.

Marina

On the south side of Sand Point is a natural slough used for a marina. The channel opening to Keweenaw Bay is maintained through dredging. No fuel is sold at the marina, nor are there power, water or sewage facilities.

Historic Lighthouse

The lighthouse and surrounding site was acquired as part of the overall site acquisition. The historic lighthouse was used by the previous landowner as a summer cottage. Some alterations have been made to the structure, including a wrap-around porch; however, much of the historic integrity has been maintained. The lighthouse no longer is functional as a light station; instead, a metal tower with a solar powered light is operated just off the shore from the lighthouse. Currently, KBIC is using the lighthouse for office space.

Campground

For many years, the KBIC has operated a camping facility. The site is in an area of tall red pines, creating a canopy over the site. The campground has small campsites, considered inadequate for the large R/V campers. The campground has power, showers, toilets, and a pavilion. There is play equipment for children.

Pow-wow Arena

Immediately adjacent to the campground is the tribal pow-wow arena site. Annually, the KBIC pow-wow attracts thousands of participants and tourists from a wide area.

Archeological Site

East and south of the camping facility is an area that contains ancient burial mounds. This is an important tribal cultural site, which the KBIC wishes to be left undisturbed.

Wild Rice Beds

Several years ago, wild rice was planted in a slough just north of the lighthouse. The planting has done well, and tribal members take part in the annual harvest, a traditional cultural activity using canoes and wood poles.

Fishing Pond

One of the ponds on the site has been planted with bluegill and largemouth bass, in order to create a shore fishing opportunity for children and those fishers without boats.

Water-Cross Lake

One of the large ponds on the site has been the site of watercross. This spectator sport features riding snowmobiles across the surface of the water. The tribe has sponsored this event in years past and large crowds have been attracted for the annual event that occurs for one weekend in August. Unfortunately, area racers use the site throughout the summer and create a nuisance for some area residents seeking solitude at Sand Point.

Informal Camping Area

At Sand Point, east of the marina, electrical services for camping sites have recently been installed, and the area is being used as an informal campground. The sites are not well defined and are close to the waters' edge. No other facilities, other than the electrical hook-ups, exist. There is no water, no toilet/shower facilities, no sanitary dump station, etc. We understand no policies and rules for use of this camping area have been established by KBIC.

COMMUNITY PARTICIPATION

Community input for this Master Plan was gathered at meetings held in March and June of 2003. The meetings for elders were held following lunch at the senior's community center and evening meetings were held for other members of the community. We also met with the Tribal Council in March, June and November of 2003.

At both March meetings, short presentations were made by members of the project team, including Mike Donofrio representing KBIC, Jane Neumann from the EPA, Bruce Peterson and Randy Wilkinson of the USDA Natural Resource Conservation Services, and Melanie Needham

and Pat Coleman of U.P. Engineers & Architects. The project team discussed the purpose, methodology and status of the study phase of the project. Following this short presentation, public comments and ideas were solicited. At the June and November meetings, UPEA and NRCS representatives addressed the forums.

It is evident from the comments that the community places a high value on Sand Point, and desires a plan to improve the area as an important natural and cultural resource area. Participants do not want over-development.

There was a recurring theme in the comments concerning noise from the water-cross and other motorized use, and the lack of rules and enforcement on the site. These issues related to concern about wildlife impacts and human enjoyment of the site.

Of particular concern is the cultural significance of Sand Point, particularly the burial mounds and other undocumented cultural resources.

A 3rd concern is that the new camping activity on Sand Point detracts from public use of the shoreline in this key area of the site. It was expressed that campers on the shoreline assume “ownership” of the waterfront, which makes other waterfront users feel they are intruding and makes them uncomfortable being there.

Listed below are the summarized comments for both the Elders and community meetings:

- **Elders Meeting**
- In the 1950s, 4 picnic tables were spread on the property and there was competition during summer months to get a table for the day. It would be nice to have tables again, for the beach and the “rocks” area.
- Future use should include walking paths.
- Had a baseball field on site in 40s & 50s. No motorized vehicles, quiet areas. There were also alcohol use restrictions.
- Cranberries & blueberry bushes planted down there – but probably human consumption issues (people eating them all?)
- History of Sand Point and KBIC at Lighthouse (interpretative element).
- Fish cleaning area at marina.
- Garbage cans, picnic areas, toilets.
- Security at lighthouse and more diverse use at sites.
- Sweat lodges adjacent to lighthouse.

- More staff for guides & security.
- Walkways and Trails are needed, with interpretive signs
- Observation areas ~ Quiet areas
- Wildlife, such as birds, use this area. It is their habitat.
- Wish snowmobiles were not on the pond area.
- Reduce 4 wheelers in lower end.

Community Meeting

- Restore lighthouse and start tours and promote lighthouse by allowing people to have lunch at Sand Point, etc.
- Ecosystem needs to be paid attention to. There are animals such as woodpeckers & eagles that live there. “Quality not quantity” “What can the land sustain?” Burial grounds are critical. Respect & regard them!
- There should be limited use. There is a problem with parking. People just park where they want to and it creates problems.
- The burial mounds have a historical, cultural & spiritual significance and should be taken in to consideration.
- The Vietnam Memorial Moving Wall was a good idea...
- Promote tourism. Nature trails and walkways. Do a summer village recreation before pow-wow time.
- Utilize as a youth area. They haven’t anywhere to go. Improve marina.
- How long will it take for planted grass to take hold? How will the grass be protected at that time and how will it be protected after that? Water-cross practice should be prohibited. It is very noisy!
- It should be a place for contemplation. There hasn’t been any activity from the beavers and eagles for some time.
- There shouldn’t be any camping south of the lighthouse. It limits use by others. No water-cross at all.

- Preserve the burial mounds. They are culturally significant places. More study and awareness of them needs to be done before any work is done there.
- This may be the place where the very first Midewiwin Lodge was. The area should remain a cultural site. Maybe an ice rink could be there for the winter months.
- Lighthouse restoration & walking trails.

These comments, along with input from the tribal council, were used to prepare several conceptual development options. These concepts provided alternatives to consider for the future use of Sand Point. Following preparation of the options, several meetings were conducted for the elders and the community. Listed below are comments received on the development options.

Comments on Master Plan Options

- Happy to see that sites with natural beauty and cultural importance are being protected
- How will we keep ORV's offsite? Discussions related to increased police patrols and enforcement followed
- Is the path proposed along the KB marina going through a swamp? Discussion on use of a boardwalk followed.
- Light the walkway for security, especially for seniors.
- Watercross is too noisy- discussion followed regarding limits on use of watercross pond for the event only (no practicing), and elimination of event entirely. Consideration for the economic impacts of event elimination was also mentioned.
- Stop all camping at lighthouse/marina area.
- Allow camping south of the marina only.
- Allow camping at point, but find a way to push campers back away from the shoreline.
- Define the use of the point, and designate area accordingly (day use, camping area, etc.).
- Eliminate the watercross.
- Discussion of methods to open up watercross pond, and methods to maintain the opening.
- Misc. discussions on how to best use the watercross pond (ideal marina site?)

- Need signage warning swimmers of the steep dropoff off of the point, and warning them of the contaminated pond.

Following these meetings, the final development concept was prepared. The Sand Point Master Plan will help the tribal council with decision-making and as a guide for future development.

MASTER PLAN & DEVELOPMENT RECOMMENDATIONS

The Sand Point area is a special resource. The combination of beautiful Keweenaw Bay vistas, great swimming beaches, natural areas, vast open space, the marina and the historic lighthouse make the site a unique place. The site is large enough that separate areas for a variety of recreational uses can be designated and developed.

These recommendations are provided to create consensus and as a general guide on how the land area should be developed. The lack of a good map or survey of the site limited how much detail could be provided at this time, for example, specific locations of camping facilities, road network, waterfront walking trail, etc. This kind of detail is appropriate for the next stage of planning work once there is agreement on the Master Plan concept.

Shoreline Walking Trail

Many people want and need a safe location for walking. This recreational activity is highly beneficial for human health and wellness. People desire a walkway away from traffic. This type of facility is not available in the Baraga area. A walking pathway along the entire shoreline of the Sand Point site would be very popular. The trail should link all recreational activity sites in the Sand Point area.

The walkway could be paved or a packed gravel or limestone surface. Every attempt should be made to provide an accessible walkway for handicapped persons. This trail could also be used for cross-country skiing during the winter.

Amenities, such as benches, viewing platforms or decks, and informational signage should be considered for this walkway. Interpretive signage, pointing out natural or historical features should be considered as well.

Shoreline Camping Area

The location of the RV and tent camping area should be shifted somewhat to the west away from Sand Point to be nearer to the marina. This will keep the actual point beach area for public use, and separate the camping from special events.

Individual camping sites should be identified and designated. A parking pad for each site will keep RV's and vehicles at the appropriate place on each site. A pad can also be provided for a picnic table at each site. The picnic tables can be secured to this pad. A campfire ring should be provided at each site, as well. A specific location may be designated for pulling boats and personal watercraft (jet skis) up on the beach.

The camping area needs a service area with a potable water source, restrooms and showers. This facility should be carefully located in an area with easy access to all campsites. At a minimum, pit toilets should be centrally located. KBIC might consider developing a sanitary dump station for the convenience of RV campers.

Policies and rules should be created for this camping area. These policies would cover such rules as maximum length of stay, quiet hours, campfires, designated boat and jet ski locations, and establish a camping fee schedule.

Beach and Picnic Area.

North of the shoreline camping area is a large expanse of open area and a nice swimming beach. This could be improved for use as a picnic area. Tables, grills, restrooms, and a play area with beach volleyball, horseshoes, etc. could be provided. A parking area can be designated and improved.

Lighthouse

The historical lighthouse is currently used as temporary office space for KBIC staff. Lighthouses are extremely popular with visitors and tourists. The Sand Point Lighthouse has great potential to serve as a visitor's center and historical attraction. These types of historical attractions help keep tourists in the area longer, and could fit into the KBIC casino marketing. The lighthouse appears to be in excellent condition. Some modifications have been made over the years. KBIC should consider a complete restoration project. Matching grant funds may be available for such a project.

Site improvements are needed surrounding lighthouse. The parking area should be better defined, walkways established, and the shoreline cleaned up. A historical marker and interpretive signage are also needed.

Fishing Pond

The pond west of the lighthouse has been planted with largemouth bass and bluegill. While this region is blessed with numerous fishing opportunities in Lake Superior and inland lakes, there are few places where good fishing can be accessed from shore. With a few improvements, this site could be perfect for children, elderly and people with disabilities. Several small fishing decks or docks could be constructed along the shore to improve public access.

Access Road

The stamp sand beach area north of the lighthouse has the potential to be an attractive and useful location with the completion of the recommended soil cap and vegetation. To improve access to this area, a road should be constructed linking this area to the existing road system. Providing an additional access point from US 41 will also improve traffic flow for events. The location of this road should be selected prior to placement of the soil cap. That way, the road and cap could be constructed simultaneously, and capping material would not be required beneath the road. In addition, a parking area could be located along the access road on the north end of the site.

Pond Restoration

Several comments heard during the public meetings indicate the water-cross event held on one of the large ponds at the site detracts from the natural setting of Sand Point, and is no longer desirable. The large pond is presently little more than a depression in the stamp sand. However, it has the potential to be transformed into an attractive natural feature through shoreline restoration. In addition, a channel could be created linking the pond to Keweenaw Bay. The material removed during this process could be used to fill in the smaller pond to the north of the water-cross pond. This would eliminate the surface water body from this smaller pond that was

shown to have elevated mercury levels. Access to this area should be improved with the construction of designated parking areas on the north and south ends of the pond.

Cultural Activity Events/Areas

Several attendants at the public meetings also expressed a desire for portions of the Sand Point area to be set aside for cultural activities and events. The existing informal campground area and the shoreline area just north of the lighthouse would be excellent locations for these activities, since they are somewhat secluded from more public portions of the site, while still taking full advantage of the natural beauty of Sand Point and view of Keweenaw Bay, Lake Superior.

Groin

The Army Corps of Engineers (ACOE) suggested that groins could be used to slow the southward migration of stamp sand along the shore at Sand Point. A groin is a rigid structure built out from a shore to protect the shore from erosion. A logical location for a groin would be just north of the proposed channel from the current water cross pond to Keweenaw Bay. This would not only slow the migration of stamp sand, but help to keep the channel from filling in.

Future Camping Area

In the future it may be desirable to develop a camping area on the northern part of the site, in the stamp sand remediation area. Individual camping sites could be identified and designated. A parking pad for each site will keep RV's and vehicles at the appropriate place on each site. A pad can also be provided for a picnic table at each site. The picnic tables can be secured to this pad. A campfire ring should be provided at each site, as well.

The camping area needs a service area with a potable water source, restrooms and showers. This facility should be carefully located in an area with easy access to all campsites. At a minimum, pit toilets should be centrally located. KBIC might consider developing a sanitary dump station for the convenience of RV campers.

Policies and rules should also be created for this camping area. These policies would cover such rules as maximum length of stay, quiet hours, campfires, designated boat and jet ski locations, and establish a camping fee schedule.

Additional Property

The Michigan DNR owns 40 acres of land adjacent to the wild rice pond at Sand Point. It would be desirable for KBIC to acquire this land. DNR may be willing to donate the land to KBIC, in which case it could be used as a possible non-federal funding match.

LIST OF IMPROVEMENT PROJECTS

The Sand Point area is a tremendous community asset, with great potential for serving a variety of recreational needs. Well-planned improvements will greatly enhance the use and value of the area. The Sand Point Concept Master Plan includes professional recommendations for improving the site. The improvements can be phased in over time. The table provided below shows approximate costs for implementing the recommendations.

Project	Estimated Cost
Shoreline walking path/cross country ski trail <ul style="list-style-type: none"> • 15,689 ft long by 10 ft wide, 6” packed gravel • Aggregate • Seed, mulch and fertilizer • Labor and equipment • Interpretive signage • Annual maintenance and trash cleanup 	\$83,000
New road access <ul style="list-style-type: none"> • 4,750 ft long by 24 ft wide, 6” packed gravel • Aggregate • Seed, mulch and fertilizer • Labor and equipment • 2 acres of clearing and grubbing required 	\$68,000
Gravel parking lot <ul style="list-style-type: none"> • Three, 33,000 sq ft parking lots, 6” packed gravel 	\$36,300
Open pond to Keweenaw Bay <ul style="list-style-type: none"> • Excavate 9ft deep channel to Keweenaw Bay • Remove 51,455 sq ft of material • Place rip-rap around mouth of channel • Haul excavated material to smaller pond site • Fill smaller pond with excavated material and grade 	\$155,000
Install groin north of new channel <ul style="list-style-type: none"> • Approx. 100’ x 70’ groin • Mobilization • Geotextile fabric – 1100 syd • Crushed 12” stone base – 225 cyd • 8” to 16” core rock – 1100 cyd • 4 ton pieces armor rock – 870 syd 	\$154,200
Fishing pond floating dock <ul style="list-style-type: none"> • 20 ft long by 4 ft wide 	\$2,300
Pedestrian bridge <ul style="list-style-type: none"> • 150 ft long by 6 ft wide 	\$59,600
Picnic area improvements <ul style="list-style-type: none"> • 20 picnic tables • Fire rings • Toilet facilities 	\$79,500
Pond shoreline restoration <ul style="list-style-type: none"> • Place seeds and plants on 2.5 acres of pond shoreline 	\$65,000
Lighthouse renovation <ul style="list-style-type: none"> • Feasibility study • Renovations 	

In addition, our Groundwater, Surface water, and sediment investigation report documents specific actions to reduce environmental concerns over contaminants at Sand Point. These projects are listed below:

A: SOIL CAP

All areas affected with stamp sand, i.e. that area north of the lake inlet to the wild rice and natural area, should be covered with six inches of soil and vegetated. Where walking trails or roads are desired, the cover can be modified to a suitable gravel to serve as a base or sub-base. Where used as a sub-base, the gravel may be covered with any surface desired for walking, such as wood chips or paving.

The limits of cover at the water’s edge shall be constrained by the limit of wave run-up on the beach to avoid erosion of the cap. For purposes of these recommendations, this limit is taken to be the 603 feet elevation contour. The westward limit of cover is recommended to be the limit of stamp sand. This will result in a strip of white (quartz) sand remaining exposed between the covered stamp sand and the edge of vegetation.

The cost to place this cover is itemized in the table below.

Estimated area to be covered =45 acres

**ESTIMATE OF STAMP SAND REMEDIATION COST
(RECOMMENDATION A)**

No	Description	Quantity	Unit	Unit Price, \$	Total
1	Mobilization/Demobilization	1	LS	\$1,500	\$ 1,500
2	Sedimentation & Erosion Control	10,200	lin. ft.	3	30,600
3	Cover Material	45	ACRE	5,200	234,000
4	Seeding & Mulching	45	ACRE	1,100	49,500
5	Chain Link Fence, 6 ft	10,200	LF	10	102,000
6	Double Swing Gate, 6 ft	2	EA	700	1,400
7	Field Office	1	LS	1,500	1,500
8	Contingency, 10 %	1	LS	44,000	44,000
TOTAL ESTIMATED REMEDIATION COST					\$ 464,500

Assumptions made:

1. Six inches soil cover.
2. Cover soil cost includes excavation, haul and place.
3. Cover extent is from near water's edge to western extent of stamp sand.
4. Excludes filling and cover of northern pond.

B. NEW OPEN CHANNEL FROM WATER CROSS POND TO LAKE SUPERIOR

The northernmost pond from which samples were collected during this study, also referred to as the small pond to the north of the water cross pond, should be filled because of sediment and water concentrations of copper and mercury above State of Michigan criteria. This pond can be filled to within six to eight inches of final grade with pit run borrow material from any suitable source. The final, top, layer of soil should be the same as that used to cover the stamp sand areas referred to in recommendation #1. The pond area final grade should match the surrounding area.

The pond will need to be pumped down and the water transported to a suitable treatment facility. Although additional testing is recommended for confirmation, based on the concentrations identified in this study, disposal through a municipal wastewater treatment plant is recommended.

**ESTIMATE OF NORTH POND REMEDIATION COST
(RECOMMENDATION B)**

No	Description	Quantity	Unit	Unit Price	Total
1	Mobilization/Demobilization	1	LS	\$1,500	\$ 1,500
2	Fill Soil	10,750	cu. yd.	7	75,250
3	Chain Link Fence, 6 ft	2,000	LF	10	20,000
4	Double Swing Gate, 6 ft	1	EA	700	700
5	Field Office	1	LS	1,500	1,500
6	Water disposal	100,000	gallon	\$ 0.10	10,000
7	Contingency, 10 %	1	LS	11,000	11,000
TOTAL ESTIMATED REMEDIATION COST					\$ 119,950

Assumptions made:

1. Six inches soil cover and fill only for the northern pond.
2. Cover soil cost includes excavation, haul and place.

3. Cost of water disposal is based on a limited volume disposed at the Baraga wastewater treatment plant. Cost for this item is preliminary.
4. This work is assumed to take place at a separate time from placing soil cover under recommendation A.

C. FUTURE RECOMMENDED INVESTIGATIONS

Further study of the occurrence of mercury in the northernmost water samples taken from the wild rice and cranberry natural area is recommended. Specifically, the potential that uptake of mercury in plants harvested from that area should be researched, first in existing reference materials, followed by confirmation testing from representative samples of harvested plants.

CONCLUSIONS

We feel the EPA Sand Point assessment grant provided excellent opportunities for investigating the extent of the environmental problems at Sand Point and allowed for good interaction with the Community at large for envisioning future recreational projects for this important resource. Correction of these environmental problems is a daunting task, but the accomplishment would provide long-term benefits. The total Sand Point remedial costs from all projects listed above are over \$1.3 million. We recommend the Tribal Council instruct staff to immediately prioritize these projects and pursue adequate funding to complete all projects.

FUNDING RESOURCES

There are potential funding sources for many of the improvements, such as the lighthouse, fishing pond and shoreline walkway projects. Funding opportunities are listed below:

Shoreline Walkway, Lighthouse, Signage/Interpretation, Picnic Area

Coastal Management Grants, a 50% matching fund program through the Michigan DEQ for providing and enhancing public access to the Great Lakes.

Shoreline Walkway, Parking Lot, Road Access

The portions of these items that are located in the stamp sand area could be incorporated into a soil cap remedial design for the stamp sand. Funding for the cap may be available from EPA.

Fishing Pond

Inland Fisheries Cooperative Grant, a 50% matching grant from the Michigan DNR.

Lighthouse

Lighthouse Assistance Grants, through the Michigan State Historic Preservation Office.

Other Projects

Waterfront Redevelopment Grants, Clean Michigan Initiative, Michigan DEQ, Transportation Enhancement Grants, and Michigan Department of Transportation.